Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT

for

Valero Refining Co. - California
Facility #B2626

Facility Address:
3400 East Second Street
Benicia, CA 94510-1097

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit.

B. Facility Description

General Description of an Oil Refinery:

An oil refinery is an intermediary between crude oil and a refined product. It takes dirty, low-value oil from the ground and distills it under atmospheric pressure into its primary components: gases (light ends), gasolines, kerosene and diesels (middle distillates), heavy distillates, and heavy bottoms. The heavy bottoms go on to a vacuum distillation unit to be distilled again, this time under a vacuum, to salvage any light ends or middle distillates that did not get separated under atmospheric pressure; the heaviest bottoms continue on to a coker or an asphalt plant.

Other product components are processed by downstream units to be cleaned (hydrotreated), cracked (catalytic or hydrocracking), reformed (catalytic reforming), or alkylated (alkylation) to form gasolines and high-octane blending components, or to have sulfur or other impurities removed to make over-the-road diesel (low sulfur) or off-road diesel (higher sulfur). Depending on the process units in a refinery and the crude oil input, an oil refinery can produce a wide range of salable products: many different grades of gasoline and gasoline blend stocks, several grades of diesel, kerosene, jet and aviation fuel, fuel oil, bunker fuels, waxes, solvents, sulfur, coke, asphalt, or chemical plant feedstocks.

A more detailed description of petroleum refinery processes and the resulting air emissions may be found in Chapter 5 of EPA's publication AP-42, Compilation of Air Pollutant Emission Factors. This document may be found at:

http://www.epa.gov/ttn/chief/ap42/ch05/

The principal sources of air emissions from refineries are:

- Combustion units (furnaces, boilers, and cogeneration facilities)
- FCC (Fluidized Catalytic Cracking)
- Storage tanks
- Fugitive emissions from pipe fittings, pumps, and compressors
- Sulfur plants
- Wastewater treatment facilities

Combustion unit emissions are generally controlled through the use of burner technology, steam injection, or selective catalytic reduction. Emissions from the FCCU are controlled through the use of improved catalyst regeneration, CO boilers, electrostatic precipitators, hydrotreating the feed, and use of catalysts to remove impurities. Storage tank emissions are controlled through the use of add on control and or fitting loss control. Fugitive emissions have been controlled through the use of inspection and maintenance frequencies. Sulfur plants are equipped with tail gas units to reduce emissions. Wastewater treatment facilities are controlled by covering units, gasketing covers, and add on controls such as, carbon canisters.

B. Facility Description

Valero Refining – Benicia Fast Facts
-- Produces 10 percent of the clean-burning California Air Resources Board (CARB) gasoline used in California and 25 percent of the CARB used in the San Francisco Bay Area.

-- Total feedstock throughput capacity of 180,000 barrels per day (BPD)

-- Products include CARB gasoline, diesel, jet fuel, fuel oil, residual oil and asphalt

Overview
Built as a grass-roots project in 1969, the Benicia refinery has undergone significant modifications and upgrades over the years. Valero acquired the facility in 2000.

Output
This facility has the ability to process sour crude oils into a high percentage of light products. Approximately 70 percent of the refinery's product slate is CARB gasoline – California's clean-burning fuel. The refinery also has significant asphalt production capabilities and produces 25

percent of the asphalt supply in northern California. Currently, it processes domestic crude both from the San Joaquin Valley (SJV) in California and from the Alaska North Slope (ANS). Major refinery units include:
-- 135,000-BPD crude distillation unit
-- 77,000-BPD fluid catalytic cracking (FCC) unit
-- 39,500-BPD coker unit
-- 40,000-BPD hydrocracker
-- 40,000-BPD catalytic reformer

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Condition I.J has been added to clarify that the capacity limits shown in Table II-A are enforceable limits.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24 or S-24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a

number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in this table but will have an "S" number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an "A" number.

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date:

Source and abatement device lists have been revised since the application was first submitted, because of the removal from service of sources and the permitting of new sources and abatement devices. All new sources have been evaluated in accordance with the District New Source Review regulations.

The following sources have been taken out of service:

S-102	Fixed Roof Tank (water/organics mixture)
S-130	Sulfur Storage
A-14	Sulfur Plant 'A' Tail Gas Incinerator (F1302A)
A-15	Sulfur Plant 'B' Tail Gas Incinerator, (F1302B)

The following sources were added:

S-237	Steam Boiler
S-239	Crude/Product dock Sump
S1027	Pentane Rail Car Loading Rack

The following sources were added for the Valero Cogeneration Project (Application #2488/2695):

S-1030	Gas Turbine
S-1031	Heat Recovery Steam Generator
S-1032	Gas Turbine
S-1033	Heat Recovery Steam Generator

The following emergency generators were permitted after losing their exempt status:

S-240	Emergency Diesel Engine for Break Tank Raw Water Pump, (P-2401C)
S-241	Emergency Diesel Engine for Crude Field Firewater Pump, (P-2602)
S-242	Emergency Diesel Engine for Dock Firewater Pump (P-2608B)

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) listed following the corresponding District Rules. SIP rules are District rules that have been approved by EPA into the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portions of the SIP rule are cited separately after the District rule. The SIP portions will be federally enforceable; the non-SIP versions will not be federally enforceable, unless EPA has approved them through another program
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Condition Cross-referencing
At the top of each set of permit conditions applicable to a source(s) in Table IV, Valero has also included a unique environmental file number, shown as either 8.1.XXX or 8.2.XXX. Valero's environmental file number cross-references the District's Condition ID# for these same permit conditions, in order to track and facilitate compliance.

Complex Applicability Determinations:

Facility Tanks:

In both Table IV and Table VII, facility tanks have been grouped into several sub-tables such that each sub-table includes a number of tanks which have a common set of requirements. Specific requirements are triggered by various criteria, which include: tank size, tank construction date, vapor pressure of the tank contents, toxicity of the tank contents, tank roof design (floating roof versus fixed roof) and whether or not the tank is vented to a control device. For example, the fewest requirements apply to tanks which are relatively old and therefore are not subject to the federal New Source Performance Standard (NSPS), and which store low-vapor pressure materials and therefore are not subject to District Regulation 8, Rule 5.

District permit applications not included in this proposed permit
This facility sends a large number of permit applications to the District every year. Review of the following permit applications was not completed in time to include the results in this Title V permits. The Title V permit will be revised periodically to incorporate these applications as permit revisions following the procedures in Regulation 2, Rule 6, Major Facility Review.

Application #	Project Description
2035	MTBE Phaseout Project
3915	Alternative Compliance Plan: Use of Interchangeable Emissions Reduction Credits for Regulation 9, Rule 10 Compliance
3951	Enhancements to Fluid Catalytic Cracker Unit
4398	Banking of Interchangeable Emissions Reduction Credits

District Regulation 8, Rule 2 Applicability:

The District has determined that the definition of “miscellaneous operation” in Regulation 8-2-201 excludes sources that are in a source category regulated by another rule in Regulation 8, even if they are exempt from the other rule. This is because such sources limited by the terms of the exemption. Thus, for example, a hydrocarbon storage tank that stores liquids with a vapor pressure less than 0.5 psia is exempt form Regulation 8, Rule 5, Storage of Organic Liquids (8-5-117), and is not subject to Regulation 8, Rule 2, Miscellaneous Operations.

The policy justification for this determination is that the District considered appropriate controls for the source category when it adopted the rule governing that category. Part of the consideration includes determination of sources and activities that are not subject to controls.

Relationship between Valero Refining (Plant B2626) and Huntway Refining (Plant A0901):

The District has determined that Valero Refining and Huntway Refining are the same facility.

Federal Title V regulations allow the District to issue separate Title V permits to distinct operations within a facility. 40 CFR 70.2. Because both draft permits are very close to completion, the District has decided to issue separate permits to these two facilities. Before doing so, however, requirements that arise due to the facilities' association with each other must be added to the draft permits.

The District has determined that no additional requirements apply to sources at Valero Refining due to the determination that the two refineries are the same facility.

Discussion

Valero Refining and Huntway Refining are located on contiguous property. The Standard Industrial Classification (SIC) code for both facilities is 2911 (Petroleum Refineries).

Because of the common ownership and common purpose of the two refineries, the District considers the two refineries to be a single facility under both Federal and District regulations.

- District permits
- District regulations
- Federal New Source Review and Prevention of Significant Deterioration
- Federal National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR 61 and 63)
- Federal New Source Performance Standards (NSPS) (40 CFR 60)
- Title V operating permits

As a result, the emissions from both plants must be combined to determine whether or not they exceed the Title V applicability thresholds. Also, any requirements under the above programs from which Huntway was exempt due to its size, must be reviewed based on the refineries' combined capacity.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Because the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit only contains elements 2-6-409.10.1 and 2-6-409.10.2.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past year and has no records of compliance problems at this facility. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and as appropriate, revised the conditions for clarity and enforceability. Some conditions have been deleted because they reiterate an applicable requirement that is now contained in Section IV, Source-Specific Applicable Requirements. Each permit condition is identified with a unique numerical identifier, up to five digits.

Where necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted; all "underline" language will be retained, subject to consideration of comments received.

The existing permit conditions are generally derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). It is also possible for permit conditions to be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources so as to help ensure compliance with District rules addressing preconstruction review. The applicability of preconstruction review depends on whether there is a "modified source" as defined in District Rule 2-1-234. Whether there is a modified source depends in part on whether there has been an "increase" in "emission level." 2-1-234 defines what will be considered an emissions level increase, and takes a somewhat different approach depending on whether a source has previously permitted by the District.

Sources that were modified or constructed since the District began issuing new source review permits will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding "emission level" for purposes of 2-234.1 and 2-1-234.2. By contrast, for older sources that have never been through preconstruction review (commonly referred to as "grandfathered" sources), an "increase" in "emission level" is addressed in 2-1-234.3. A grandfathered source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 3) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is "bottlenecked"), then the relaxing of that limitation ("debottlenecking") is considered a modification.

The District has written throughput limits into the Title V permit for grandfathered sources. As discussed above, these limits are written for the purpose of determining whether an increase in emission levels has occurred. The purpose of these limits is to facilitate implementation of preconstruction review program. If these limits are exceeded, the facility would be expected to report the exceedence, and the District would treat the reported exceedence as presumptively establishing the occurrence of a modification. The facility would then be expected to apply for a preconstruction permit addressing the modification and the District would consider whether an enforcement action was appropriate.

It is important to note the presumptive nature of throughput limits for grandfathered sources that are created in the Title V permit. These limits are generally based upon the District's review of information provided by the facility regarding the design capacity or highest documented capacity of the grandfathered source. To verify whether these limits reflect the true design, documented, or "bottlenecked" capacity (pursuant to 2-10234.1) of each source is beyond the resource abilities of the District in this Title V process. Moreover, the District cannot be completely confident that the facility has had time or resources necessary to provide the most accurate information available in this regard. Creating throughput limits in the Title V permit for grandfathered sources is not required by either Part 70 or the District's Major Facility Review rules. Despite the lack of such a requirement, and despite the resource and information challenges presented in the Title V process, the District believes that writing presumptive limits for grandfathered sources into the Title V permit will provide a measure of predictability regarding the future applicability of the preconstruction review program, and that this increased predictability is universally beneficial.

It follows from the presumptive nature of these throughput limits for grandfathered sources that exceedence of these limits is not per se a violation of the permit. *Failure to report an exceedence would be a permit violation.* However, if an exceedence occurs, the facility would have an opportunity to demonstrate that the throughput limit in fact did not reflect the appropriate limit for purposes of 2-1-234.3. If the facility can demonstrate this, no enforcement action would follow, and the permit would be revised at the next opportunity. It also follows that compliance with these limits is not a "safe harbor" for the facility. If evidence clearly shows that a grandfathered source has undergone a "modification" as defined in 2-1-234.3, the District would consider that a preconstruction review-triggering event, notwithstanding compliance with the throughput limit in the Title V permit. In other words, the protection afforded the facility by complying with the throughput limit in the Title V permit is only as strong as the information on which it was based. There is no Title V "permit shield" associated with throughput limits for grandfathered sources.

Conditions that are obsolete or that have no regulatory basis have been deleted from this permit.

Conditions have also been deleted due to the following:

- Redundancy in record-keeping requirements.
- Redundancy in other conditions, regulations and rules.
- The condition has been superseded by other regulations and rules.
- The equipment has been taken out of service or is exempt.
- The event has already occurred (i.e. initial or start-up source tests).

The regulatory basis has been referenced following each condition. The regulatory basis may be a rule or regulation. The District is also using the following codes for regulatory basis:

- BACT: This code is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This code is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This code is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This code is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This code is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Abatement device operating parameter monitoring has been added for each abatement device.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes to Permit Conditions / New Conditions
Condition 8348 (S-1007 Alkylation Unit) has been deleted. The conditions were superseded by Condition 10574 (Application #3782).

The maximum throughput limits are presented in Table II.A and are in effect upon approval of the Title V Permit. Conditions for the Valero Cogeneration Project (S-1030, S-1032, S-1033, S-1034), approved near the end of 2001, are incorporated in Table V.

Conditions for the three emergency standby generators (S-240, S-241 and S-242), which lost their exemption on August 1, 2001, are also included.

Conditions have been added (Condition 19176) to the four existing flares (S-16, S-17, S-18, S-19) to control visible emissions and maintain proper records of flaring events.

A number of new conditions have been added to implement the additional compliance monitoring imposed pursuant to this permit (Condition 19466). These are discussed in more detail in the next section.

Refinery processes are usually operated in steady state (constant flow and temperature conditions). The process controls react to fluctuations in conditions by adjusting flow rates and fuel use to bring the process back to the desired conditions. Excess emissions are more likely to occur when operating conditions are being changed from one set of values to another. They are most likely to occur when the change is greatest: during startup and shutdown.

The District has imposed a permit condition on all of the refineries, pursuant to the authority granted by BAAQMD Rule 2-1-403, requiring the facility to notify the District no less than three calendar days in advance of any startup or shutdown. This will enable District staff to observe the activity, and respond if appropriate.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements that apply to each source. The summary includes a citation for each monitoring requirement, frequency, and type. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided when no monitoring is proposed due to the size of a source. In all other cases, the column will have “N/A”, meaning “Not applicable”.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements**.** It follows that, although Title V calls for a re-examination of all monitoring**,** there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation**.** Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate**.**

A summary of all monitoring is contained in Section VII, Applicable Limits and Compliance Monitoring Requirements, of the permit. The summary includes a citation for each monitoring requirement, frequency, and type. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

NOX Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
none			

NOx Discussion:

Every source at the refinery that is subject to a NOx limit is also subject to NOx monitoring. These monitoring requirements come either from Regulation 9-10, existing permit conditions, or both. For more detailed information on this matter, see Table VII. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

BAAQMD Regulation 9, Rule 10 "Inorganic Gaseous Pollutants: NOx and CO from Boilers, Steam Generators and Process heaters in Petroleum Refineries"

Regulation 9-10-502 requires continuous emission monitoring systems (CEMS) or "equivalent" verification systems to demonstrate compliance with Regulation 9, Rule 10. A BAAQMD Policy Memorandum, dated June 23, 2000, outlines in detail, emission monitoring requirements for petroleum refinery heaters, furnaces, and boilers that are subject to the rule. Exact monitoring requirements for NOx are dependent upon emission control devices in use, firing rate, and source test results. The District Policy is contained in Appendix B. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

CO Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
None			

CO Discussion:

Every source at the refinery that is subject to a CO limit is also subject to CO monitoring. These monitoring requirements come either from Regulation 9-10, existing permit conditions, or both. For more detailed information on this matter, see Table VII. Sources that are subject to this rule

are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

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Regulation 9-10-502 requires continuous emission monitoring systems (CEMS) or "equivalent" verification systems to demonstrate compliance with Regulation 9, Rule 10. A BAAQMD Policy Memorandum, dated June 23, 2000, outlines in detail, emission monitoring requirements for petroleum refinery heaters, furnaces, and boilers that are subject to the rule. Exact monitoring requirements for CO are dependent upon emission control devices in use, firing rate, and source test results. The District Policy is contained in Appendix B. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

SO_2 Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
Facility	BAAQMD 9-1-302	General emission standard: < 300 ppm SO2 (applies only to gas-fired equipment when GLMs are not functioning)	None (Note 1)
Combustion sources permitted for liquid fuel use S1002 Hydrotreater and S1003 Hydrocracker	BAAQMD 9-1-304	Sulfur content of liquid fuel <0.5%, by weight	Low-Sulfur Fuel Certification by Supplier for each lot (Note 2)
Emergency Diesel Backup Generators S240, S241, S242	BAAQMD 9-1-304	Sulfur content of liquid fuel <0.5%, by weight	Low-Sulfur Fuel Certification by Supplier for each lot (Note 2)

SO_2 Sources			
S# & Description	**Federally Enforceable Limit Citation**	**Federally Enforceable Limit**	**Monitoring**
S-1 and S-2 Sulfur Plants	BAAQMD 9-1-313.2 and SIP 9-1-313.2	95% of H2S in fuel gas is removed and recovered on a refinery wide basis and 95% of H2S in process water streams is removed and recovered on a refinery wide basis and 95% of ammonia in water streams is removed	Semi-annual inlet/outlet Sampling of the Fuel Gas Scrubber and Sour Water Stripper Towers (Note 3)
S-1 and S-2 Sulfur Plants	BAAQMD 6-330	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	Semi-annual source tests (Note 4)

SO2 Discussion:

Note 1: All facility combustion sources are subject to the SO2 emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). Area monitoring to demonstrate compliance with the ground level SO2 concentration requirements of Regulation 9-1-301 has been required by the APCO (per BAAQMD Regulation 9-1-501). No monitoring is required for BAAQMD Regulation 9-1-302 because it only applies when the ground level monitors (GLMs) are not operating, which is infrequent.

Note 2: Per CAPCOA/ARB/EPA Agreement, certification by fuel supplier for each fuel delivery. California Diesel Fuel shall not exceed a sulfur content of 0.05 %, by weight. Certification may be provided once for each purchase lot, if records are also kept of the purchase lot number of each delivery.

Note 3: Sulfur plants (S-1 and S-2) will require annual source testing to demonstrate compliance with BAAQMD Regulation 9-1-313.2. This H2S and ammonia removal standard is more of a design standard than a performance standard. The entire removal system is designed to achieve the required removal. The District has determined that annual testing will assure compliance by verifying that the system continues to operate as designed. In addition, other monitored parameters (e.g., sulfur plant SO2 emissions and refinery fuel gas sulfur content, which are continuously montitored) will alert the operator if the system is not functioning properly.

The likelihood of undetected non-compliance is low. The tests required to demonstrate compliance are cumbersome, expensive, and dangerous (because of the nature of the sources). Direct measurement is not feasible. As a result, compliance must be demonstrated by source test. The cost of more frequent tests is not justified by the incremental improvement in compliance assurance.

Note 4: Sulfur plants (S-1 and S-2) will require annual source testing to demonstrate compliance with BAAQMD Regulation 6-330. More frequent monitoring is not required, because the system will exceed the standard only under upset conditions. The monitors and alarms that alert the operator to abnormal conditions are

adequate to ensure that upsets are detected and corrected. The cost of more frequent tests is not justified by the incremental improvement in compliance assurance.

PM Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S1, S2, Claus Plants (sulfur recovery))	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Visual inspection (Note 1)
S-3, S-4, S-7, S13, S-20-S-26, S30-S42, S48, S50, S56, S-173, S220, Process Heaters (gaseous fuels only)	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)
S27, PFR Regeneration	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Visible observation when burning carbon off catalyst (Note 3)
S-157, Sulfur Storage	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 4)
S-160, S-167, S-168, Seal Oil Spargers	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 4)
S-174, S-175, Material Handling	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 4)
S-16, S-18, S-19, Flares	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Gas flow meter along with Visual Inspection and record (Note 5)
S-17, Flare	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Visual Inspection (Note 5)
S-43- S-46 Turbines	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)

PM Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
Emergency Diesel Backup Generators S240, S241, S242	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 6)
S-1030, S-1032 Cogeneration Gas Turbines	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)
S-1031, S-1032 Heat Recovery Steam Generators	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring (Note 2)
S-3, S-4, S-7, S13, S-20-S-26, S30-S42, S48, S50, S56, S-173, S-220 Process Heaters	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 2)
S-16, S-18, S-19, Flares	BAAQMD 6-310	0.15 grain per dscf	Gas flow meter along with Visual Inspection and Record (Note 5)
S-17 Flare	BAAQMD 6-301	0.15 grain per dscf	Visual Inspection (Note 5)
S27, PFR Regeneration	BAAQMD 6-310	0.15 grain per dscf	Visual observation when burning carbon off catalyst (Note 7)
S-43-S47, Turbines	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 2)
S-157, Sulfur Storage	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)
S160, S-167, S-168, Seal Oil Spargers	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)

PM Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-174, S-175, Material Handling	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 4)
Emergency Diesel Backup Generators S240, S241, S242	BAAQMD 6-310	0.15 grain per dscf	No monitoring (Note 6)
S-1030, S-1032 Cogeneration Gas Turbines	BAAQMD 6-301	0.15 grain per dscf	No monitoring (Note 2)
S-1031, S-1032 Heat Recovery Steam Generators	BAAQMD 6-301	0.15 grain per dscf	No monitoring (Note 2)

Note 1: Liquid Fuels: Per CAPCOA/ARB/EPA Agreement, adequate monitoring for combustion of liquid fuels is a visible emissions inspection after every 1 million gallons diesel combusted, to be counted cumulatively over a 5 year period. If a visible emissions inspection documents opacity, a method 9 evaluation shall be completed within 3 working days, or during the next scheduled operating period if the unit ceases firing on diesel fuel within the 3 working day time frame. Condition 1694, Part A.2c is a new requirement to monitor visible emissions before every 1 million gallon of fuel is combusted. This frequency was selected by balancing the likelihood of undetected significant non-compliance with the expense of more frequent inspections. The cost of more frequent monitoring is not justified for sources with liquid fuel usage that is infrequent or small. The cost of conducting method 9 evaluations is not justified unless a less formal inspection indicates that the source is emitting smoke.

Note 2: Gaseous Fuels: BAAQMD Regulation 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas. No monitoring is required for sources that burn gaseous fuels exclusively, per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP".

Note 3: Visual observation of stack needed during catalyst burn-off. At other times, the source is merely a combustion device using gaseous fuels. Visible emissions are normally not associated with such sources. See Note 2.

Note 4: Source is capable of exceeding visible emissions or grain loading standard only during process upset. Under such circumstances, other indicators will alert the operator that something is wrong.

Note 5: Condition 19176 is a new requirement for a visual inspection of flares as soon as possible after a release begins. Hourly observation of the flare during operation will ensure that improper flare operation is detected and corrected.

Note 6: No monitoring required because this source will be used for emergencies and reliability testing only.

Note 7: Tube cleaning is periodically performed on furnaces that burn liquid fuels, to remove built-up soot from the outside of furnace tubes. If improperly performed, it can result in visible emissions. Hourly observation of the stack during tube cleaning will ensure that improper tube cleaning performance is detected and corrected.

POC Sources

S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S27, Power Former Regeneration	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Minimal VOC emissions (Note 1)
S159, Lube Oil Reservoir	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Abated Emissions (Note 2)
S-160, S167, S168, Seal Oil Spargers	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Vented to fuel gas recovery system (Note 3)
S201, S202, Loading	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	Fuel Flow Meter and Continuous Hydrocarbon Analyzer
S1027 Loading/ unloading rack	BAAQMD 8-2-301	VOC emissions shall not exceed 15 lbs/day and 300 ppmvd total carbon	No Monitoring: Vented to fuel gas recovery system

Note 1: The S-27 Power Former Regeneration Unit regenerates the spent catalyst from the S-1004 Naphtha Catalytic Reformer. Prior to regeneration, nitrogen is constantly circulated over the fixed catalyst bed to strip it of any VOC's. The VOC laden stream is condensed and drained into a knock out pot. The liquid goes to slop and the gases are routed back to the fuel gas recovery system. The catalyst during regeneration should have virtually no VOC's present.

Note 2: The VOC emissions from the S-159 Lube Oil Reservoir are abated by the S-36 Boiler (SG-701). After abatement, VOC emissions are minimal. Violation is possible only if S-36 is not operating, and operation of S-159 without abatement is prohibited by Condition 19466, Part 12

Note 3: The VOC emissions from S-167 and S-168 Seal Oil Spargers are vented in a closed system to the fuel gas header to be introduced into the refinery fuel gas stream, and operation of S-167 and S-168 without this control equipment is prohibited by Conditin 19466, Part 13. VOC emissions from this controlled source are negligible.

Discussion of Other Pollutants:

HAP: There was no need for additional monitoring of HAPs. All HAP limits contained adequate monitoring requirements. For more information on HAP monitoring see Table VII.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section VI of the permit.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit that identifies and justifies specific federally enforceable regulations and standards which the APCO has confirmed are not applicable to a source or group of sources, or (2) A provision in a major facility review permit that identifies and justifies specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting which are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

Compliance with the applicable requirement contained in the permit automatically results in compliance with any subsumed (= less stringent) requirement.

This facility has the first and second types of permit shield.

Following is the detail of the Type 1 permit shields that were requested by the applicant.

The following permit shields have been granted to the facility:

1. The plant is not subject to the general sulfur dioxide emissions limitation of Regulation 9-1-302 since the 300 ppm sulfur dioxide stack limit does not apply with GLM system in place as required by Regulation 9-1-110 and 9-1-310.3. Note that the requirement has been added to Table IV-Refinery for those times when the GLMs are not functioning.
2. Sources 1 and 2 (Claus sulfur plants) are not subject to Regulation 9-1-307 since the sulfur dioxide emissions from these units are less than 100 pounds per day.
3. Sources 1 and 2 (Claus sulfur plants) are not subject to 40 CFR 60 Subpart J since the plants have not been modified after October 4, 1976.

The following Type 2 permit shields have been granted for the purpose of streamlining:

Table IX B - 1
Permit Shield for Subsumed Requirements
REFINERY

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 10-69	Subpart QQQ. Standards of Performance For Petroleum Refinery Wastewater Systems	40 CFR 63 Subpart CC	BAAQMD incorporation by reference of NSPS 40 CFR 60, Subpart QQQ is superceded by Refinery MACT, 40 CFR 63 Subpart CC.
40 CFR 60 Subpart QQQ	Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems	40 CFR 63.640(o)(1)	For Valero, Subpart QQQ is superceded by Refinery MACT, 40 CFR 63 Subpart CC. Ref: 64.640(o)(1). Subpart CC cites 40 CFR 61 Subpart FF for Wastewater Standards.

Table IX B - 1
Permit Shield for Subsumed Requirements
S21

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD Condition # 10574-19	Continuous fuel flow monitor and recorder	BAAQMD 9-10-502.2	Fuel flow meters for boilers, steam generators, and process heaters in petroleum refineries

Table IX B - 1
Permit Shield for Subsumed Requirements
S22

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD Condition # 10574-19	Continuous fuel flow monitor and recorder	BAAQMD 9-10-502.2	Fuel flow meters for boilers, steam generators, and process heaters in petroleum refineries

Table IX B - 1
Permit Shield for Subsumed Requirements
S220

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 2-6-409.2.2	Periodic monitoring sufficient to yield reliable data (for BAAQMD 9-3-303: 125 ppm NOx)	BAAQMD 9-5-502	Monitoring (CEM for NOx will assure compliance with 9-9-303 limit. Span of CEM for 9-10-502 is too low to measure 125 ppm.)
BAAQMD Condition # 10574-19	Continuous fuel flow monitor and recorder	BAAQMD 9-10-502.2	Fuel flow meters for boilers, steam generators, and process heaters in petroleum refineries

Table IX B - 1
Permit Shield for Subsumed Requirements
S1030, S1031, S1032, S1033

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 2-6-409.2.2	Periodic monitoring sufficient to yield reliable data (for BAAQMD 9-3-303: 125 ppm NOx)	BAAQMD Condition 19177-38	Monitoring (CEM for NOx will assure compliance with 9-9-303 limit. Span of CEM for BAAQMD Condition 19177-18(c) is too low to measure 125 ppm.)
40 CFR 60 Subpart Db 60.48b(e)(2) and (3)	Requirement for 500 ppm span	BAAQMD Condition 19177-38	Monitoring (CEM for NOx will assure compliance with 60.44b(e) and 60.44b(l)(1) limits. Span of CEM for BAAQMD Condition 19177-18(c) is too low to measure 500 ppm.)

Table IX B - 2
Permit Shield for Subsumed Requirements
CEMS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
40 CFR 60.7(c)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(c)(1)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(c)(2)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(c)(3)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8

Table IX B - 2
Permit Shield for Subsumed Requirements
CEMS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
			CEMS reporting requirements.
40 CFR 60.7(c)(4)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(d)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(d)(1)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.
40 CFR 60.7(d)(2)	CMS Reporting	BAAQMD 1-522.8	40 CFR 60 Subpart A CMS reporting requirements are satisfied by BAAQMD 1-522.8 CEMS reporting requirements.

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 10-52	40 CFR 60 Subpart VV. Standards of Performance For Equipment Leaks of VOC In The Synthetic Organic Chemicals Manufacturing Industry.	40 CFR 63.640(p)	For Valero process unit fugitive components, with the exceptions of the Dimersol Unit and the vapor recovery compressors, Subpart VV is superceeded by Refinery MACT, 40 CFR 63 Subpart CC.
BAAQMD 10-59	40 CFR 60 Subpart GGG. Standards of Performance For Equipment Leaks Of VOC In Petroleum Refineries	40 CFR 63.640(p)	For Valero process unit fugitive components, with the exceptions of the Dimersol Unit and the vapor recovery compressors, Subpart GGG is superceeded by Refinery MACT, 40 CFR 63 Subpart CC.
BAAQMD 11-7-302	Pumps	BAAQMD 8-18-303	First attempt to repair pumps within 5 days, repair within 15 days, subsumed by 8-18-303

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
			which has a 24 hour / 7 day time limit for pumps in organic compound service.
BAAQMD 11-7-303	Compressors	BAAQMD 8-18-303	First attempt to repair compressors within 5 days, repair within 15 days, subsumed by 8-18 which has 24 hour / 7 day time limits for compressors in organic compound service.
BAAQMD 11-7-307	Valves	BAAQMD 8-18-302	First attempt to repair valves within 5 days, repair within 15 days, subsumed by 8-18-302 which has 24 hour / 7 day time limits for valves in organic compound service.
BAAQMD 11-7-307.3	Valves	BAAQMD 8-18-404	Allows relief from monitoring if designated as having no detectable emissions. BAAQMD Regulation 8-18-404 does not allow this relief.
BAAQMD 11-7-307.4	Valves	BAAQMD 8-18-404	Allows relief from monthly monitoring if designated as unsafe-to monitor. BAAQMD Regulation 8-18-404 does not allow this relief.
BAAQMD 11-7-307.5	Valves	BAAQMD 8-18-401.3	Allows relief from monthly monitoring if designated as difficult-to-monitor. BAAQMD Regulation 8-18-206 definition of inaccessible is more stringent. BAAQMD 8-18-401.3 requires yearly monitoring for difficult-to-monitor valves.
BAAQMD 11-7-308	Flanges and Other Connectors	BAAQMD 8-18-304	First attempt to repair flanges and other connectors within 5 days, repair within 15 days, subsumed by 8-18-304 which has 24 hour / 7 day time limits.
BAAQMD 11-7-310.2	Delay of Repairs-Valves	BAAQMD 8-18-306.1	Repair of technically infeasible equipment may be delayed until next process unit shutdown. Subsumed by BAAQMD 8-18-306.1 which requires repair during the next turnaround or 5 years, whichever is sooner.

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
BAAQMD 11-7-310.3	Delay of Repairs-Valves	BAAQMD 8-18-306.1	Repair of technically infeasible equipment may be delayed until next process unit shutdown. Subsumed by BAAQMD 8-18-306.1 which requires repair during the next turnaround or 5 years, whichever is sooner.
BAAQMD 11-7-401	Inspection	BAAQMD 8-18-403	Weekly visual inspection of pumps is subsumed by 8-18-403 which requires daily inspection of pumps and has no NDE exemption.
40 CFR 60.482-7(g)	Standards	BAAQMD 8-18-404	Allows relief from monthly monitoring if designated as unsafe-to-monitor. BAAQMD Regulation 8-18-404 does not allow this relief.
40 CFR 60.482-9(e)	Standards	BAAQMD 8-18-306	Allows delay of repair of valves beyond a process unit shutdown under specific circumstances. BAAQMD Regulation 8-18-306 does not allow this relief.
40 CFR 61 Subpart J	National Emission Standards for Equipment Leaks (Fugitive Emission Sources) of Benzene	40 CFR 63.640(p)	For Valero, Subpart J is superceded by Refinery MACT, 40 CFR 63 Subpart CC. Ref: 63.640(p). Subpart CC cites 40 CFR 60 Subpart VV and 40 CFR 63 Subpart H for Equipment Leak Standards.
40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	40 CFR 63.640(p)	For Valero, Subpart V is superceded by Refinery MACT, 40 CFR 63 Subpart CC. Ref: 63.640(p). Subpart CC cites 40 CFR 60 Subpart VV and 40 CFR 63 Subpart H for Equipment Leak Standards.
40 CFR 61.350(a)	Standards: Delay of Repair	BAAQMD 8-18-306.1	Repair which is impossible without shutdown may be delayed until next process unit shutdown. Subsumed by BAAQMD 8-18-306.1 which

Table IX B - 3
Permit Shield for Subsumed Requirements
FUGITIVE COMPONENTS

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
			requires repair during the next turnaround or 5 years, whichever is sooner.
40 CFR 61.350(b)	Standards: Delay of Repair	BAAQMD 8-18-306.1	Repair which is impossible without shutdown may be delayed until next process unit shutdown. Subsumed by BAAQMD 8-18-306.1 which requires repair during the next turnaround or 5 years, whichever is sooner.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

The Compliance and Enforcement Division has prepared an Annual Compliance Report for 2001. This report is a summary of District enforcement activities at the Valero Benicia refinery during the Calendar Year 2001. A copy of the report is attached as Appendix A.

The information contained in the compliance report has been evaluated during the preparation of the Statement of Basis for the proposed Major Facility Review Permit. The main purpose of this evaluation is to identify ongoing or recurring problems that should be subject to a schedule of compliance. No such problems have been identified. A second purpose of this evaluation is to identify activities that require additional monitoring to assure compliance. No such activities have been identified.

Eight notices of violation were issued during 2001. Three of the eight involved discrete incidents or breakdowns, which were promptly corrected.

Four of the violations involved equipment failures or violations that were detected through routine inspections. None of the violations resulted in significant releases. Existing inspection and maintenance programs will continue to assure compliance by ensuring that such problems are detected and corrected in a timely fashion.

The last violation involved a failure to submit required monthly CEM reports. This problem has been corrected. The reporting procedures that are being put into place to ensure compliance with Title V requirements will help ensure that reporting requirements are not overlooked in the future.

All affected sources are now in compliance.

As part of the permit application, the owner certified that all equipment was operating in compliance on July 10, 1996.

F. Differences between the Application and the Proposed Permit:

The Title V permit application was originally submitted on July 10, 1996. This version is the basis for constructing the proposed Title V permit. Changes to the permit sources and conditions were previously identified in 'Section II. Equipment' and 'Section VII. Conditions' but are repeated here for clarity.

Throughput limits (identified by a basis of Regulation 2-1-234.3) have been added to all sources with no existing throughput or emission limits.

Equipment changes from Section II:

Alignment of Information in Application and the Proposed Permit:
Source and abatement device lists have been revised since the application was first submitted, because of the removal from service of sources and the permitting of new sources and abatement devices. All new sources have been evaluated in accordance with the District New Source Review regulations.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date:

The following sources have been taken out of service: S-130 Sulfur Storage, A-14 Sulfur Plant 'A' Tail Gas Incinerator, (F1302A), A-15 Sulfur Plant 'B' Tail Gas Incinerator, (F1302B).

The following sources were added: S-237 Boiler, S-239 Crude/Product dock Sump, S1027 Pentane Rail Car Loading Rack, S-1030 Combustion Turbine Generator.

The following sources were added for the Valero Cogeneration Project (Application #2488/2695): S-1030 Gas Turbine, S-1031 Heat Recovery Steam Generator, S-1032 Gas Turbine and S-1033 Heat Recovery Steam Generator.

The following emergency generators were permitted after losing their exempt status: S-240 Emergency Diesel Engine for Break Tank Raw Water Pump, (P-2401C), S-241 Emergency

Diesel Engine for Crude Field Firewater Pump, (P-2602), S-242 Emergency Diesel Engine for Dock Firewater Pump (P-2608B).

Permit Condition Changes and New Conditions from Section VI:

The maximum throughput limits are presented in Table II.A and are in effect upon approval of the Title V Permit. Conditions for the Valero Cogeneration Project (S-1030, S-1032, S-1033, S-1034), approved near the end of 2001, are incorporated in Table V. Conditions for the three emergency standby generators (S-240, S-241 and S-242), which lost their exemption on August 1, 2001, are also included. Conditions were added to the four existing flares (S-16, S-17, S-18, S-19) to control visible emissions and maintain proper records of flaring events.

Existing Permit Conditions were revised in the following way:

1. Obsolete, duplicative, unenforceable, and baseless conditions were deleted. Changes are shown in underline and strikeout in Section V.

2. The basis (reason) for the condition was added to each existing condition that did have a basis determination.

APPENDIX A

BAAQMD COMPLIANCE REPORT

APPENDIX B

BAAQMD Policy Memorandum: NOx, CO, and O2 Monitoring Compliance with Regulation 9, Rule 10

APPENDIX C

GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority that allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CEC
California Energy Commission

CEQA
California Environmental Quality Act

CFP
Clean Fuels Project

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO
Carbon Monoxide

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

GLM
Ground Level Monitor

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP
The District's Manual of Procedures.

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOx
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

O2
Oxygen

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

RFG
Refinery Fuel Gas

RMG
Refinery Make Gas

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2
Sulfur dioxide

THC
Total Hydrocarbons (NMHC + Methane)

Therm
100,000 BTU's

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC
Total Organic Compounds (NMOC + Methane, Same as THC)

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Plan

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m^2	=	square meter

min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year